Dart Session 5

Problem Solving Task

Problem No.1

- Given n numbers find the average of them.

Input

The first line consists of an integer t, the number of test cases. Each test case consists of 2 lines. In each test case the first line consists of an integer n, the count of numbers. The next line consists of n integers.

Output

For each test case print the average of the numbers without decimal places.

Example

```
Input:
2
5
1 2 3 4 5
3
2 1 1

Output:
3
1
```

Problem No.2

Example

```
Input:
2
468
7547

Output:
Aayush
Akash
```

- Akash and Aayush play the following number game. First they choose a number N (1<=N<=1000000000). Then both of them take their turn one by one. In a turn player has to subtract 1 from the number if it is odd or divide the number by 2 if it is even. Game end when the number becomes zero. Aayush has a dominating nature so he always play first. Help them in finding out who will win the game.

- Input : First line contains T, the number of test cases. Following T lines contain 1 integer each, the value of N.
- Output : For each test case print "Aayush" if Aayush wins else print "Akash".

Problem No.3

- Sum Numbers from 1 to N, since N is an integer value
- Input : N the number you should to sum numbers from 1 to N for it
- Output : the summation result
- Bonus : (Don’t Use Loop)

- Example :

Input : 10 , output : 55

Input : 1500, output : 1125750

Problem No.4

- Write a function that returns the largest element in a list.
- Input: [1,5,205,4,66,99,105]
- Output: 205

- Input: [66,58,74,21,90,44,68,98]
- Output: 98

Problem No.5

- On Tuesdays Hassan and Ali have a heavy schedule.After the first 5 classes they finally had their breaktime. In the playground they found three sticks. As Hassan is a clever student, he asked Ali if he can form a triangle with these sticks? Given the length of each stick, Help Ali answer the question.
- input : You will be given 3 integers X, Y, Z
- Output : If Ali can form a triangle output "YES",otherwise "NO".

Examples

input	Copy
3 4 5	
output	**Copy**
YES	

input	Copy
1 2 3	
output	**Copy**
NO	

Problem No.6

- Our friend Zoma found a magical cave so he entered it. After he walked for several hours in the cave he found a magical door which opens if he said the right magical words, there was also a number X above the magical door.

- He found a piece of paper near the magical door written on it : "To open the magical door you should say X is "lucky" or "unlucky" also you should say X is "even" or "odd" ".

- Zoma knows that the lucky numbers are the numbers which ends with 4 or 7, can you tell Zoma the magical words to help him open the magical door?

• Input : the input consists of integer X

• Output : Print two words separated with space between them , the first word should be "lucky" or "unlucky" and the second word should be "even" or "odd" according to the problem

input Copy
14
output Copy
lucky even

input Copy
17
output Copy
lucky odd

Examples

input Copy
12
output Copy
unlucky even

input Copy
13
output Copy
unlucky odd

Problem No.7

- Given a number N, compute its factorial Fact(N).
- Where Fact(N) = N * (N-1) * (N-2) * … * 3 * 2 * 1.
- **Input**
- The input consists of one integer N
- **Output**
- Print the factorial of N.

Examples

input	Copy
3	
output	**Copy**
6	

input	Copy
5	
output	**Copy**
120	

Problem No.8

- Consider the following algorithm to generate a sequence of numbers.
- Start with an integer n. If n is even, divide by 2. If n is odd, multiply by 3 and add 1. Repeat this process with the new value of n, terminating when n = 1. For example, the following sequence of numbers will be generated for n = 22:
- 22 11 34 17 52 26 13 40 20 10 5 16 8 4 2 1
- Given n, print the generated sequence.
- **Input**
- The first line of input consists of a single integer T ,the number of test cases. Followed by T lines, each line consists of a single integer n
- **Output**
- For each test case, print the sequence generated by the integer n.

Examples

input	Copy
2 22 64	
output	**Copy**
22 11 34 17 52 26 13 40 20 10 5 16 8 4 2 1 64 32 16 8 4 2 1	

Problem No.9

- Write a program in Dart to remove all whitespaces from String

- Example
- Input : Hello My Name Is Ahmed
- Output : HelloMyNameIsAhmed

Problem No.10

- Write a program (function) that takes a list and returns a new list that contains all the elements of the first list without all the duplicates.

- Example
- Input : [1,1,1,2,2,2,2,6,2,2,20,3,3,3,4,4,4,4,5,5,5,5,5,5,5,5,10,10,10]
- Output : [1,2,6,20,3,4,5,10]

Problem No.11

- Write a Dart code that takes this list and makes a new list that has only the even and prime elements of this list in it.

- Example
- Input : a = [1, 4, 5 , 7 , 9, 16, 25, 36, 49, 64, 81, 100].
- Output : [4 , 5 , 7 , 16 ,36, 64 ,100]